

RANCHO SANTA ANA BOTANIC GARDEN

LEAFLETS of POPULAR INFORMATION

NUMBER 52

MAY 8, 1942



CARPENTERIA CALIFORNICA CARPENTERIA

1942

RANCHO SANTA ANA BOTANIC GARDEN
of the
NATIVE PLANTS OF CALIFORNIA
Santa Ana Cañon, Orange County, California
Established 1927 in Memory of
JOHN W. BIXBY

CARPENTERIA CALIFORNICA
CARPENTERIA

Saxifragaceae

Saxifrage Family

An erect, evergreen shrub, 6-15 ft. high, branching diffusely from the base and forming a dense bush; main stems 3-5 in. in diam., covered with a thin, exfoliating, light tan, flexible bark. Leaves opposite, entire, oblong, tapering at both ends, revolute (especially in late summer), green and glabrous above, white-tomentose beneath, 3-5 in. long. Inflorescence a terminal cyme consisting of 3-12 delicately fragrant flowers; calyx 5-6 (or even 8)-parted, the lobes ovate and acutely pointed, valvate in bud, the tubular portion adnate to middle of ovary; petals 5-8, pure white, oval or orbicular, rotately spreading; stamens approximately 175, bright yellow, with filaments $\frac{1}{4}$ - $\frac{1}{2}$ in. long and 2-celled anthers; ovary partially inferior with 5-8 incompletely divided cells; style 1, bearing about 10 longitudinal stigmatic ridges; capsule $\frac{3}{8}$ - $\frac{1}{2}$ in. in diam., conical, loculicidal, but often splitting only at upper end; seeds very numerous, minute, light brown, endosperm present. Flowers April to June; fruits August to September. In germination the seedlings are at first very minute, with cotyledons foliar; the next 3 or 4 pairs of leaves are $\frac{1}{4}$ - $\frac{3}{8}$ in. long, broadly ovate, rather than oblong as on mature plants.

The genus *Carpenteria* (in honor of Prof. W. M. Carpenter of Louisiana, 1811-1848) was proposed in 1853 by Prof. John Torrey, famous American botanist, 1796-1873. The genus consists of but a single species and is most closely related to *Philadelphus*, from which it differs in several fundamental features. It is evergreen rather than deciduous; has but a single style instead of several; has flower parts in 5's-8's instead of 4's; and an imperfectly 5-8-celled ovary and capsule instead of a completely 3-5-celled ovary and capsule.

Carpenteria californica was discovered by General John C. Fremont (1813-1890), noted soldier, pathfinder and first United States Senator from California. Fremont's rather poor fruiting specimen was known to have come from the Sierra Nevada, but the exact spot was not indicated, nor has it been possible to determine the point since. For many years following the discovery of *Carpenteria* no further specimens were found until 1876 when Gustav Eisen exhibited before the California Academy of Sciences, flowering specimens which had been collected in the Sierra Nevada foothills above Tollhouse, Fresno Co. The species is still known from but a very limited area of the Sierra Nevada foothills between the Kings River and the San Joaquin River. The scholarly account by Dr. Jepson in his *Flora of California*, vol. 2, pages 140-142, 1936, should be consulted for additional information on the history and distribution of this remarkable endemic.

We have studied *Carpenteria* in the wild at but two localities, but these are apparently typical and yet differ, so that they are both worthy of note here. The first of these is along the road 1.2 miles above Tollhouse, where there is a small ravine down which water flows for several

months of the year. The adjacent slopes are sparsely covered with *Pinus Sabiniana* and *Quercus Wislizenii*. About a dozen plants of *Carpenteria* occupy this area, the largest of which are about 12 ft. high, 15 ft. in spread and have trunks 2-4 in. thick. It is May 18, 1933 and the leaves are a rich dark green above and whitened beneath. Scattered at the tips of the branches are 2-3 in. white flowers, with stamens forming a yellow mound. The larger trunks are covered with a thin exfoliating bark, light tan in color and with a texture like that of kid leather. When we return to this locality in August the seeds have ripened, the decomposed granite soil is dry and the plants are in a period of rest with the margins of their leaves inrolled as if to conserve moisture. The second locality is about 5 miles above Auberry on the road to Pine Ridge. Here the plants are mixed with *Pinus Sabiniana* and *Arctostaphylos mariposa*, but are on a more exposed decomposed granite slope. Most of the bushes are only 6 or 8 ft. high, but are equally broad. The plants are laden with two or three times as many flowers as at Tollhouse, but they are much smaller. When we return in August we discover that the plants are more nearly dormant with their leaves strongly inrolled and rather dry looking. The capsules are abundant and filled with numerous dust-like seeds.

Propagation of *Carpenteria* is by greenwood cuttings, suckers, and by seeds. Under our conditions the latter method has proven the most practical. Seeds, which are extremely small, germinate readily in fall or winter when planted in flats of loamy soil over which a thin layer of screened sphagnum has been placed. After the seeds have been carefully distributed over the surface of the sphagnum the flat should be thoroughly moistened by partial immersion in a pan of water. If covered with a pane of glass for a week or two germination will be hastened. In a few weeks the seedlings, which are at first delicate, can be transferred to containers, using a gritty and well drained soil. Under California conditions *Carpenteria* should be set out in late fall or winter in order to become well established so that it will be unnecessary to irrigate excessively during the summer months. The site for successful cultivation should be partially shaded and have well drained soil. The plants withstand winter temperatures of as low as 15° F. and well over 100° F. in summer. Curling of the new growth is caused by aphids which should be controlled by frequent spraying or dusting. In southern California *Carpenteria* begins to bloom late in April or early in May and continues for about a month. The exquisite white flowers with their mound of yellow stamens remind one of white Cherokee Roses, and have a pleasant and delicate fragrance.

Carpenteria has been cultivated in England since about 1885 and in California for at least 30 or 40 years. However, it has never been popular in California gardens, largely because its cultural requirements have been ignored. When proper conditions can be provided it is an outstanding plant worthy of a prominent place in the finest garden.

CARL B. WOLF

RANCHO SANTA ANA BOTANIC GARDEN

Dedication of Garden Foundation to the Board of Trustees for the Rancho Santa Ana Botanic Garden of the Native Plants of California:

"THE NATURE, OBJECT AND PURPOSE OF THE INSTITUTION
HEREBY FOUNDED AND TO BE MAINTAINED HEREUNDER.

ITS NATURE: A botanic garden of the native plants of California, herbarium and botanical library, containing living and/or preserved specimens of trees, plants and flowers native to California, and literature relating thereto.

ITS OBJECT: The preservation and improvement of the property now transferred and such property as may hereafter be transferred to the Trustees for those who not only wish to enjoy, but to study, assembled in one accessible locality, native California plants; and for the advancement of science and education with reference to plant life indigenous to the State of California.

ITS PURPOSES: (a) An institution founded primarily for scientific research in the field of local botany.

(b) To preserve the native California flora, try to replenish the depleted supply of some of the rarest plants which are rapidly being exterminated, and bring together in a comparatively small area as complete a collection of the rich store of native California plants as can be grown in this southern section of the state, thereby promoting the general welfare of the people of the state by providing the means for encouraging and carrying on the above mentioned activities in said state and by doing such other things as may be necessary and desirable to carry out the objects hereof."

BOARD OF TRUSTEES

ALLEN L. CHICKERING, Chairman, *San Francisco*
SUSANNA BIXBY BRYANT, *San Marino*
STUART O'MELVENY, *Los Angeles*
IRVING M. WALKER, *Los Angeles*
ERNEST A. BRYANT, JR., *Los Angeles*

GARDEN STAFF

SUSANNA BIXBY BRYANT, Managing Director
CARL B. WOLF (Ph.D. Stanford University), Botanist
PERCY C. EVERETT, Superintendent
E. R. JOHNSON, Construction Engineer

Published by the

DR. ERNEST A. BRYANT GARDEN PUBLICATIONS FUND
RANCHO SANTA ANA BOTANIC GARDEN
R. F. D. Anaheim, California